APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,517	01/20/2006	Itsuo Kumazawa	HOSHINO002AUS	2452

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EXAMINER
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ART UNIT	PAPER NUMBER
4163	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/565,517	KUMAZAWA, ITSUO
	Examiner	Art Unit	
	LILIANA CERULLO	4163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 January 2006</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-5 and 12-19</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-5 and 12-19</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>20 January 2006</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some *   c) ☐ None of:
        1. ☒ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

2.   Claims 1-5 and 12-19 are rejected under 35 U.S.C. 112, second paragraph, as
being indefinite for failing to particularly point out and distinctly claim the subject matter
which applicant regards as the invention. Regarding independent claims 1, 12, 14, 16
and 18, the phrase "such as" (e.g. see line 6 of claim 1) renders the claims indefinite
because it is unclear whether the limitations following the phrase are part of the claimed
invention. See MPEP § 2173.05(d). The dependent claims 2-5, 13, 15, 17 and 19
inherit the deficiencies of the independent claims.

3.   For the purpose of examination, the examiner interpreted the finger position to be
capable of detecting any type of three positions.

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 18 and 19 are rejected under 35 U.S.C. 101 because the claimed
invention is directed to non-statutory subject matter. Claims 18 and 19 recite a
"computer program", which constitutes only an abstract idea that does not require any

physical transformation and does not product a useful, concrete and tangible result.

See MPEP 2106.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   **Claims 1-3, 5 and 12-17** are rejected under 35 U.S.C. 102(b) as being

anticipated by Kumazawa in Japanese laid open publication JP-11-353091. Note that a

machine translated document is relied upon in the following discussion.

4.   Regarding **claim 1**, Kumazawa teaches a data input device (Figs. 1-7)

transmitting an input signal (para.005, signal selected by finger position) according to

the position touched by an operating finger and an operation performed by the finger

(para. 0005), comprising:

        a finger rest unit (element 1 of Fig. 1) on which the finger is placed (as shown in

Fig. 1);

        a finger position sensor (switches 6, 7, 8 and 9 of Fig. 1) capable of detecting

one of three positions (moving range of para. 0004; a moving range of tracking balls as

the elements 2, 3 4 and 5 shown in Fig. 1 inherently teach more than three positions);

and

a vertical switch (switches 6, 7, 8 and 9 of Fig. 1) switchable by the vertical

movement of the finger rest unit (as shown by the vertical arrows in Fig. 1),

wherein the finger rest unit (element 1 of Fig. 1) is formed so as to support the

finger by two rotary bodies (elements 2, 3, 4 or 5) having a rotary axis (rotatable balls

can be rotated in all directions) extending in the longitudinal direction (elements that are

adjacent to the finger will rotate in a longitudinal direction to the finger, e.g. if the finger

is moving front to back over elements 3 and 4, the other elements 2 and 5 will be

adjacent to the finger, and will be rotating in a longitudinal direction to the finger) of the

operating finger (where the hand operates the input device in the Y direction of Fig. 1,

and therefore the elements Ya and Yb rotary axes extend in the longitudinal direction of

the operating finger).

5.   Regarding **claim 2**, Kumazawa teaches a rotation detection sensor (switches 6,

7, 8 and 9 of Fig. 1) capable of detecting whether or not the two rotary bodies rotate

(para. 0006).

6.   Regarding **claim 3**, Kumazawa teaches a relative position tactual member

(elements that are under the finger when contacted. e.g. if the finger is moving front to

back over elements 3 and 4, these elements provide a relative position) capable of

touching the finger (para. 0006 regarding the finger touching balls 2-5) located between

the rotatory bodies of the finger rest unit (elements that are adjacent to the finger when

the finger is moving front to back over elements 3 and 4, i.e. elements 2 and 5).

7.   Regarding **claim 5**, Kumazawa teaches a data conversion unit that converts an

output of each sensor and an output of the vertical switch (required for use in

information and telecommunication apparatuses as shown in Figs. 2, 3, 4 and 5, and as

described in the example of para. 0006) so as to match a protocol recognizable by

information equipment (equipment of Figs. 2-5); and

       an adjustment unit (display of Fig. 4 and para. 0008) that adjusts the output

converted by the data conversion unit to a signal corresponding to a method for

transmission to the information equipment (after determination of the character of para.

010).

8.   Regarding **claim 12**, Kumazawa teaches a method of controlling information

equipment (Figs. 2-5) having an output screen (element 11 of Fig. 2) which displays

information (as shown in Fig. 3) and a data input device (Fig. 1) which moves a cursor

or a pointer (para. 0011 referring to pointing device carrying out pointing) displayed on

the output screen to the predetermined position (para. 0011 referring to the target

position), the method comprising the steps of:

       receiving an output signal from a finger position sensor or a vertical switch (as

shown in Fig. 1, a switch signal from switches 6-10);

       converting the received output signal to a movement command of the cursor or

the pointer (para. 0011, target position) on the basis of a previously stored signal table

(required for operation of a cursor); and

outputting a control signal of the cursor or the pointer on the basis of the

movement command (selected signal of para. 0011) obtained by converting the

received output signal (required for operation of the input device controlling a cursor),

wherein the data input device is capable of transmitting an input signal according

to the position touched (signal from switches 6-10 of Fig. 1) by an operating finger (as

shown in Fig. 1) or an operation performed by the finger (pushing down to activate

switches 6-10 of Fig. 1), and includes: a finger rest unit (element 1 of Fig. 1) on which

the finger is placed (as shown in Fig. 1), the finger position sensor (switches 6-9)

capable of detecting one of three positions (moving range of para. 0004; a moving

range of tracking balls as the elements 2, 3 4 and 5 shown in Fig. 1 inherently teach

more than three positions), and the vertical switch switchable (switch 10 of Fig. 1) by the

vertical movement of the finger rest unit (as shown by the vertical arrows in Fig. 1).

9.   Regarding **claim 14**, Kumazawa teaches a method of controlling information

equipment (Figs. 2-5) having an output screen (element 11 of Fig. 2) which displays

information on a screen (as shown in Fig. 3) and an indication device (Fig. 1) capable of

selecting (input signal selected of para. 0010) and designating (assigning a signal of

para. 0011) an option menu displayed on the output screen (as shown in Fig. 3), the

method comprising the steps of:

receiving an output signal from a finger position sensor or a vertical switch (as

shown in Fig. 1, a switch signal from switches 6-10);

converting the received output signal to a selection- determination command of

the option menu (para. 0009-0011, assignment of a character to a finger position and

selection of the character) displayed on the output screen (as shown in Fig. 3) on the

basis of a previously stored signal table (required for characters assignments); and

controlling and executing the information equipment on the basis of the

converted selection-determination command (para. 0011) obtained by converting the

received output signal (required for operation of the input device controlling a character

selection),

wherein the indication device is capable of transmitting an input signal according

to the position touched (signal from switches 6-10 of Fig. 1) by an operating finger (as

shown in Fig. 1) or an operation performed by the finger (pushing down to active

switches 6-10 of Fig. 1), and includes: a finger rest unit (element 1 of Fig. 1) on which

the finger is placed (as shown in Fig. 1), the finger position sensor (switches 6-9)

capable of detecting one of three positions (moving range of para. 0004; a moving

range of tracking balls as the elements 2-5 shown in Fig. 1 inherently teach more than

three positions), and the vertical switch (switch 10 of Fig. 1) switchable by the vertical

movement of the finger rest unit (as shown by the vertical arrows in Fig. 1).

10.   Regarding **claim 16**, Kumazawa teaches a method of controlling information

equipment (Figs. 2-5) having an output screen (element 11 of Fig. 2) which displays

information (as shown in Fig. 3) and a character input device (Fig. 1) which displays a

predetermined character on the output screen (para. 0007 and Fig. 3), the method
comprising the steps of:

receiving a signal from the finger position sensor (signal from switches 6-10 of
Fig. 1);

outputting a candidate character (para. 0007) by converting the signal received
from the finger position sensor (para. 0007) on the basis of a previously stored
candidate character table (para. 0009-0011, assignment of a character to a finger
position and selection of the character) and displaying the character to be inputted on
the screen (as shown in Fig. 3 and explained in para. 0007) the candidate character can
be selected (pressing determining key of para. 0007);

receiving a signal from the vertical switch (switch 10 of Fig. 1); and

outputting the determined character (para. 0008) by converting the signal
received from the vertical switch on the basis of a previously stored determination
character table (para. 0009-0011, assignment of a character to a finger position and
selection of the character) and displaying the selected and determined character on the
output screen (as shown in Figs. 3-4 and explained in para. 0008),

wherein the character input device (Fig. 1) is capable of transmitting an input
signal according to the position touched (signal from switches 6-10 of Fig. 1) by an
operating finger (as shown in Fig. 1) or an operation performed by the finger (pushing
down to activate switches 6-10 of Fig. 1), and includes: a finger rest unit (element 1 of
Fig. 1) on which the finger is placed (as shown in Fig. 1), the finger position sensor
(switches 6-9) capable of detecting one of three positions (moving range of para. 0004;

a moving range of tracking balls as the elements 2-5 shown in Fig. 1 inherently teach

more than three positions), and the vertical switch (switch 10 of Fig. 1) switchable by the

vertical movement of the finger rest unit (as shown by the vertical arrows in Fig. 1).

11.   Regarding **claims 13, 15 and 17** Kumazawa teaches wherein the finger rest unit

(Fig. 1 element 1) is formed so as to support the finger by two rotary bodies (elements

2, 3, 4 or 5) having a rotary axis (rotatable balls can be rotated in all directions)

extending in the longitudinal direction (elements that are adjacent to the finger will rotate

in a longitudinal direction to the finger, e.g. if the finger is moving front to back over

elements 3 and 4, the other elements 2 and 5 will be adjacent to the finger, and will be

rotating in a longitudinal direction to the finger) of the operating finger (where the hand

operates the input device in the Y direction of Fig. 1, and therefore the elements Ya and

Yb rotary axes extend in the longitudinal direction of the operating finger),

        the data input device includes the rotation detection sensor (switches 6-10 of Fig.

1) capable of detecting whether or not the two rotary bodies rotate (para. 0006),

        in the receiving of the output signal, the output signal (signal assigned to the

target position of para. 0011) is received from the rotation detection sensor (switches 6-

10 of Fig. 1).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13.   **Claims 18 and 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumazawa in Japanese laid open publication JP-11-353091.

14.   Kumazawa teaches all the steps limitations as explained for claims 12 and 13 respectively. Kumazawa fails to explicitly teach writing the steps as a computer program. The examiner takes official notice that storing method steps for operating of a computing device is well known in the art. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to write the method steps of Kumazawa's method (as explained for claim 12) in a computer program, in order to enable operation of the method for an input device in an information equipment.

15.   **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumazawa in Japanese laid open publication JP-11-353091, in view of Venolia et al. in US 5,313,230 (hereinafter Venolia).

16.   Kumazawa teaches the input device can be incorporated on a conventional mouse (Kumazawa, Fig. 6). Kumazawa fails to explicitly teach the a slide mechanism capable of sliding the finger rest unit. However, Venolia teaches a conventional mouse (Venolia, Fig. 7) which has a slide mechanism (Venolia, element 14 of Fig. 7), capable of sliding the finger rest unit in the forward or backward direction (Venolia, col. 4 lines 50-63) of the operating finger (Venolia, the mouse moves in the direction that the hand moves, and consequently in the direction of the operating finger), and a slide position

detection sensor (Venolia, encoders 16 and col. 4 lines 50-63) capable of detecting the

slide position of the finger rest unit slide mechanism (Venolia, col. 4 lines 50-63).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to use a sliding mechanism (as taught by Venolia), in Kumazawa's mouse

(Kumazawa, Fig. 6), in order to obtain the predictable result of controlling the position

and orientation of a computer generated image (as taught be Venolia. in col. 4 lines 31-

43), for example for scrolling and panning.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LILIANA CERULLO whose telephone number is

(571)270-5882. The examiner can normally be reached on Monday to Thursday 8AM-

4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
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LC

/Mark A. Robinson/
Supervisory Patent Examiner, Art Unit 4163